## REMARKS

### REJECTION UNDER 35 U.S.C. §112

In the Office Action, at page 2, numbered paragraph 1, claims 1, 9, 21, 33, 34 and 35 were rejected under 35 U.S.C. §112, first paragraph, for the reasons set forth therein. This rejection is traversed and reconsideration is requested.

It is respectfully submitted that FIGs. 3 and 4 visually disclose, and their descriptions inherently as well as specifically disclose, that there is no polarizing member located on the latent image formation layer. For example, see paragraphs 54-55 (lines 20-25 of page 16 of the specification): "FIG. 3 is a plan view of the laminated composite shown in FIGS. 1 and 2 viewed through a polarizing film which is arranged at the side closer to an observer. FIG. 4 is a cross-sectional view taken along the line IV-IV of the laminated composite and the polarizing film shown in FIG. 3." In particular, line 24 of page 19 through line 16 of page 20 of the specification recites:

> FIG. 3 is a plan view of the laminated composite 1 shown in FIGS. 1 and 2, viewed through a polarizing film 4 arranged at the side closer to an observer. FIG. 4 is a cross-sectional view taken along the IV-IV line of the laminated composite 1 and the polarizing film 4 shown in FIG. 3. Hereinafter, in all structures having the laminated structure of a layer having light reflectivity such as the specular reflection layer 2 and the latent image formation layer 3, the side *close to* the latent image formation layer 3 will be referred to as an "observer side".
>
> When the polarizing film 4 is arranged at the observer side of the laminated composite 1, a relatively strong contrast is produced between the oriented portion 3a and the non-oriented portion 3b. As a result, the latent image is visualized. More specifically, the latent image of the laminated composite 1 can be recognized as visually observed through the polarizing film 4. This principle will be explained with reference to FIG. 5.
>
> (emphasis added)

Claims 1 (and claims 9, 21, 33, 34, and 35 in similar fashion) has been amended to recite, in part: "a latent image formation layer ~~with no polarizing member~~, the latent image formation layer containing a liquid crystalline polymer material and provided on one of major surfaces of the optical layer,... wherein said at least one oriented portion and said at least one non-oriented portion constitute a latent image which is unrecognizable by a direct visual observation of the medium and recognizable by a visual observation of the medium through a

polarizing member if the polarizing member is arranged at an observer side close to the latent image formation layer."

It is respectfully submitted that the amendment has antecedent basis in the description cited above.

As is known to those skilled in the art, a latent image is an image that is not visible to the naked eye, i.e., is unrecognizable by direct visual observation (line 24 of page 19 through line 16 of page 20 of the specification). To visualize the latent image, the latent image is viewed through a polarizing member (see FIGs. 3-4, line 24 of page 19 through line 16 of page 20 of the specification). If the polarizing member were to be present with the latent image, the polarizing member would allow the latent image to be visualized or seen directly. However, as pointed out in the present invention, a polarizing member must be utilized to view the latent image. Thus, it is respectfully submitted that it is inherent that the latent image layer has no polarizing member located thereon, and the portion of the specification cited above recites that the polarizing member is close to the latent image layer. Notwithstanding, the amendment of claims 1, 9, 21, 33, 34, and 35 is submitted to bring said claims into conformance with 35 U.S.C. §112, first paragraph.

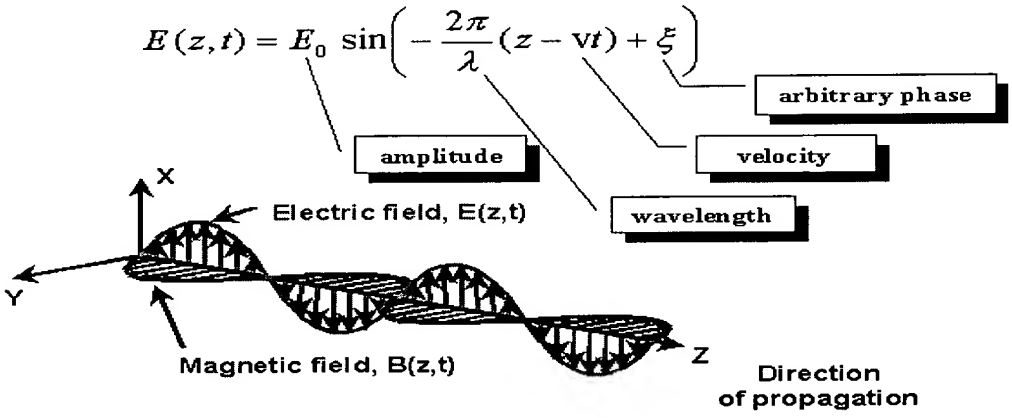
**REJECTION UNDER 35 U.S.C. §103**

In the Office Action, at pages 3-6, numbered paragraphs 6-13, claims 1-35 were rejected under 35 U.S.C. §103 as being unpatentable over USPN 6,284,337 to Lorimor et al. (hereafter, Lorimor) in view of USPN 5,800,950 to Hirao et al. (hereafter, Hirao), JP 03118198 to Kijima et al. (hereafter, Kijima), and USPN 6,111,696 to Allen et al. (hereafter, Allen). This rejection is based on having to combine four (4) references. The reasons for the rejection are set forth in the Office Action and therefore not repeated. The rejection is traversed and reconsideration is requested.

As the Examiner admits, Lorimor fails to teach that the liquid crystalline polymer is arranged wherein the nematic or smectic moledular configuration is as in instant claims 1, 6, 9, 11, 21 and 26. In addition, the Examiner admits that Lorimor fails to teach the light reflective substrate and laminated card having an optical layer facing the latent image. Also, the Examiner admits that Lorimor fails to teach the laminate structure as in instant claims 17-19 and 28-29 and also fails to teach the orientation of an image.

In addition, the Examiner admits that, although Lorimor teaches a polarizing film, Lorimor is silent as to the shape of the polarizer of claims 8, 20 and 31. It is respectfully pointed out that the elliptical polarizer of the present invention does not refer to the shape of the polarizer, but rather to the type of polarization being employed. It is respectfully submitted that, in contrast to the statement of the Examiner, "elliptical" is not synonymous with "circularly," as is indicated by the following explanation.

It may be helpful to discuss the different types of polarization. Light is an electromagnetic wave. Electromagnetic waves have an electric component and a magnetic component. These two components are exactly perpendicular to each other. Thus, in order to fully describe the wave, the amplitude, wavelength, velocity and phase of the wave must be specified.




As the wave is propagating, the wave appears to be a sinusoid from the side (y-z plane). However, if one were to look down the z axis with the wave coming directly to the viewer, the electric field of the wave would appear to be a vertical line along the y axis. The polarization state of the wave is defined by the orientation and the phase of the E-field vector of the wave. The polarization of the wave can be rotated to any angle. To describe the polarization of the wave, the wave can be projected onto the X and Y axes. When a wave is so defined, there are two components, Ex and Ey. When these components are propagating in the same direction, orthogonal and in phase with each other, a linearly polarized wave results.

There are three types of polarization. Linear polarization was described above. There are also circular and elliptical polarization. In circularly polarized light, the two amplitude vectors

Ex and Ey are equal in amplitude and 90° out of phase (one reaches a maximum while the other is at a minimum).

In elliptically polarized light, the vectors Ex and Ey take on any arbitrary phase and amplitude. Linear and circular polarization are actually subsets of elliptical polarization.

Linear polarizers cannot distinguish between linear and elliptical polarization; therefore a system using a linear polarizer cannot distinguish between elliptically and linearly polarized light.

In general, elliptical polarization describes the shape of the light beam. To describe the elliptical polarization, there are two numeric values, orientation and ellipticity. These values are related to psi and delta and are independent of the size of the ellipse. Ellipsometric angles psi and delta are obtained by modulating the polarization state of the transmitted beam to produce a time-dependent intensity that is Fourier transformed or otherwise decoded for the polarization state that occurred on reflection. The ellipsometric signal is composed of the DC component and the harmonics components of the modulation frequency. The ellipsometric angles psi and delta are related to the normalized to DC component fundamental and second harmonics of the signal. In other words, these values are independent of the intensity of the two vector components. Two ellipses may have the same value for psi and delta even though one is bigger than the other. The measurement only depends on the polarization change of the light. Kijima utilizes a PVA-iodine film and a dichromatic dye type film that are laminated to a card base material. Typically, such an embodiment provides a linearly polarizing film.

Ellipsometry is superior to alternate methods of thin film measurement such as reflectometry because two parameters (delta and psi) instead of one (intensity) are independently determined in any single measurement. This fact permits the film refractive index to be measured in addition to the film thickness. Two independent parameters also place tighter constraints on models representing more complicated films. In addition, ellipsometric measurements are insensitive to intensity fluctuations of the source, temperature drifts of electronic components, and macroscopic roughness which can be a serious problem in reflectometry but not in ellipsometry, for which absolute intensity measurements are not required.

Thus, when an elliptically polarized light is used, the accuracy and precision of the measurements are not affected by light source intensity fluctuations. The measurement only depends on the polarization change of the light. Thus, the elliptical polarization of light of the

present invention provides a high level of accuracy in contrast to use of linearly polarized light, as is taught by the prior art references.

Although Hirao teaches a recording element that is laminated and has a polymer that is capable of forming a liquid crystal phase having a nematic or smectic molecular configuration (see col. 20, lines 21-27), Kijima teaches a display part wherein a metal reflecting layer, a polymer liquid crystal layer and a polarizing film layer are successively laminated to one or both surfaces of a card, and Allen teaches blending and dispersing liquid crystal polymers in a continuous phase with axes aligned as well as using adhesives to laminate optical films, it is respectfully submitted that there is no teaching or suggestion of combining Lorimor and/or Hirao and/or Kijima and/or Allen. A combination of such a large number of references to attempt to obtain the present invention, which combination is submitted would not achieve the present invention (see explanation above) would appear to constitute a hindsight approach.

It is respectfully submitted that the courts have held that the Examiner may not suggest modifying references using the present invention as a template absent a suggestion of the desirability of the modification in the prior art. *In re Fitch*, 23 U.S.P.Q.2d 1780, Fed Cir. 1992. Something in the prior art as a whole must suggest the desirability, and thus, the obviousness, of making the combination. *Alco Standard Corp. v. Tennessee Valley Authority*, 808 F. 2d 1490, 1 U.S.P.Q. 2d 1337 (Fed. Cir. 1986). When a rejection depends on a combination of prior art references, there must be some teaching, suggestion or motivation to combine the references. *In re Geiger*, 815 F.2d 686, 688 2 U.S.P.Q.2d 1276, 1278 (Fed. Cir. 1987).

The various references cited by the Examiner are for different types of inventions, and thus there would be no suggestion of combining them:

(1) Lorimor teaches a durable security laminate with a heat-shrinkable layer, but does not teach that the liquid crystalline polymer is arranged with the nematic or smectic molecular configuration of the present invention;

(2) Hirao teaches a recording element having a layer of charge-generating material to generate a first electric charge using external energy together with a charge-transporting and charge-capturing layer, whereas the present invention does not teach using charge-generating, charge transferring and charge-capturing materials so that electron hopping takes place in accordance with HOMO (highest occupied molecular orbit) and LUMO (lowest unoccupied molecular orbit) schemes;

(3) Kijiima teaches a card with a display part having a metal reflecting layer, a polymer liquid crystal layer, and a polarizing film layer, whereas the present invention teaches using a laminated composite that does not include a polarizing member therein (it simply utilizes an external polarizing member to observe the latent image); and

(4) Allen teaches a display having an LCD and a polarizer therein, and the present invention, as noted above, does not utilize a polarizer as an internal part of the invention.

Thus, since there is no teaching or suggestion of combining Lorimor and/or Hirao and/or Kijima and/or Allen, it is respectfully submitted that independent claims 1, 9, 21, 33, 34, and 35 are patentable over Lorimor and/or Hirao and/or Kijima and/or Allen. Since claims 2-8, 10-20, and 22-32 depend from independent claims 1, 9, and 21, respectively, claims 2-8, 10-20, and 22-32 are submitted to be allowable for at least the reasons that independent claims 1, 9 and 21 are submitted to be allowable.

The genius of invention is often a combination of known elements which in hindsight seems preordained. To prevent hindsight invalidation of patent claims, the law requires some "teaching, suggestion or reason" to combine cited references. Gambro Lundia AB v. Baxter Healthcare Corp., 110 F.3d 1573, 1579, 42 USPQ2d 1378, 1383 (Fed. Cir. 1997). When the art in question is relatively simple, as is the case here, the opportunity to judge by hindsight is particularly tempting. Consequently, the tests of whether to combine references need to be applied rigorously. See In re Dembiczak, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999), limited on other grounds by In re Gartside, 203 F.3d 1305, 53 USPQ2d 1769 (2000) (guarding against falling victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher).

Thus, claims 1-35 are submitted to be patentable under 35 U.S.C. §103 over USPN 6,284,337 to Lorimor et al. in view of USPN 5,800,950 to Hirao et al., JP 03118198 to Kijima et al., and USPN 6,111,696 to Allen et al.

**CONCLUSION**

In accordance with the foregoing, claims 1, 9, 21, 33, 34 and 35 have been amended. In addition, the claims including the second claim numbered 26 through claim 34 have been amended to be renumbered as claims 27 through 35, and claim 27 (duplicate claim 26) has

been cancelled. No new matter is being presented, and approval and entry are respectfully requested. Claims 1-26 and 28-35 are pending and under consideration.

In accordance with the foregoing, it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot. And further, that all pending claims patentably distinguish over the prior art. Thus, there being no further outstanding objections or rejections, the application is submitted as being in condition for allowance which action is earnestly solicited.

If the Examiner has any remaining issues to be addressed, it is believed that prosecution can be expedited by the Examiner contacting the undersigned attorney for a telephone interview to discuss resolution of such issues.

If there are any underpayments or overpayments of fees associated with the filing of this Amendment, please charge and/or credit the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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